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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,024	02/28/2002	Wilhelmus Maria van der Krieken	702-020310	1592

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Barbara E. Johnson, Esq.
Webb Ziesenheim Logsdon Orkin & Hanson
700 Koppers Building
436 Seventh Avenue
Pittsburgh, PA 15219

EXAMINER

CLARDY, S

ART UNIT

PAPER NUMBER

1616

DATE MAILED: 03/26/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/087,024

Applicant(s)
Van Der Krieken et al

Examiner
S. Mark Clardy

Art Unit
1616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 25, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4, 6 6) ☐ Other:

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Claims 1-10 are pending in this application which is a continuation in part of US application SN 09/717,872, abandoned, which is a continuation of SN 08/981,110, filed March 13, 1998, now US Patent 6,242,381, which was filed under 35 USC 371 as a national stage application of PCT/EP96/02789, filed June 24, 1996.

Applicants' claims are drawn to methods and compounds/compositions for prolonging plant growth regulator (PGR) activity, *in vivo* or *in vitro*, comprising:

Claim 1: Methods of increasing/prolonging activity of PGRs by:

- a) administering either:
 - 1) encapsulated PGRs, and/or
 - 2) PGRs chemically bonded to carrier molecules¹, optionally through linking or spacer molecules²
- b) inducing a defensive response in the plant to increase sensitivity to the PGRs, e.g., by application of elicitors³, or elicitor inducers⁴

Claim 3: PGRs selected from aminooxyacetic acid (AOA) derivatives:

t-butyloxycarbonylaminoxyacetic acid (or t-Boc-AOA)	42 989 - 85 - 5 ^P
benzoyloxycarbonyl aminoxyacetic acid	42 989 - 82 - 2
N,N'-di(aminoxyacetic acid) ethylenediamine	186 345 - 93 - 7
N,N'-di-t-Boc-AOA	293 302 - 31 - 5
propionic aminoxyacetic acid	494 769 - 73 - 2
1-N-indole-3-hexanoic acid	25 177 - 65 - 5
indoleacetic acid (IAA) N-conjugate with bovine serum albuminate	

¹Carrier molecules: sucrose, glucose, sorbitol, sterols, terpenes, phosphorylated hydrocarbons

²Spacer molecules: succinic acid, malonic acid, diaminoalkanes (e.g., 1,2-diaminoethane, 1,4-diaminobutane, 1,6-diaminohexane).

³Elicitors: oligosaccharides, lignin fragments, tannic acid, jasmonic acid, nonanoic acid, uridine, foreign compounds such as lipo-chito-oligosaccharides, fusicoccine, pythium extract, 4-acetamidophenol.

⁴Elicitor inducers: pectinase, glucanase, cellulase, UV-B, ozone.

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indolebutyric acid (IBA) N-conjugate with bovine serum albuminate
indoleacetic acid (IAA) C-conjugate with bovine serum albuminate

The synthesis of each of the protected AOA derivatives of claim 40 is provided in the specification, Example 7, pages 17-19. Claim 3 reads on the compounds themselves.

Claims 1, 2 and 7-10 are rejected under the judicially created doctrine of double patenting over claims 1-15 of U. S. Patent No. 6,242,381, since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: methods of increasing or prolonging PGR activity by applying to plants an encapsulated or chemically linked PGR, and inducing a defensive response in the plant to increase sensitivity to PGRs.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re*

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Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claims 3-6 are rejected under 35 U.S.C. 102(a), (b), and (e) as being anticipated by Kisfaludy et al (US 3,873,510).

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Kisfaludy et al teach the concept of linking active agents (i.e., peptides with ACTH activity) with applicants' aminooxycarboxylic acid group, represented in this reference as OGly (col 2, lines 38-39). Specifically taught is the synthesis of t-BOC-AOA (BOC-OGly: col 6, "Step 1", lines 5-26). The functional references in claims 4-6 are irrelevant in compound claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over either the combined teachings of Szejtli et al (US 4,380,626) and Agri-tek (PCT WO 95/31970); or the combined teachings of Fox et al (US 3,890,299), Ashmead (US 4,169,717), Instituut voor Agrobiologisch en Bodemvruchtbaarheidsonderzoek ("Inst": PCT WO 95/27395), and Schneider et al (DD 128 544), all cited in the parent application, and IDS, Paper No. 4.

Szejtli et al and Agri-tek teach that it was known to make PGR compositions comprising the active PGR agent in a microencapsulated composition, or inclusion complex wherein the PGR is surrounded by a shell or enclosing material.

Fox et al, Ashmead, Inst, and Schneider et al each teach variations of chemically bonding a PGR with other carrier molecules, i.e., ligands or conjugates. Ashmead also discusses various plant hormones including IAA (columns 3-4).

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One of ordinary skill in the art would be motivated to combine these references because they disclose either encapsulation or inclusion of PGRs, or chemical bonding of PGRs with carrier molecules.

Thus it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have made applicants' encapsulated or conjugated PGRs because the basic concepts are well known in the art as taught in the cited references. Absent evidence that applicants' specific conjugating or encapsulating material produces unexpected results in comparison with the prior art, applicants are still seen to have done nothing more than make an obvious variation of the prior art compositions, and apply them to plants or plant material.

No comparisons with the closest prior art have been presented. No unobvious or unexpected results are noted. No claim is allowed.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103 and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Mark Clardy whose telephone number is (703) 308-4550.



S. Mark Clardy
Primary Examiner
AU 1616

March 20, 2003